

In the Claims

Claims 1-39 (canceled).

Claim 40 (original): A method of forming at least one trenched isolation region, comprising:

providing a semiconductor substrate within a reaction chamber, the substrate having at least one trench extending therein;

providing a mixture within the chamber, the mixture comprising a precursor of an electrically insulative material within a supercritical fluid, the precursor being reactive at or above a threshold temperature to form the electrically insulative material, the mixture being initially provided within the reaction chamber at a temperature below the threshold temperature; and

raising the temperature of at least some of the mixture to a temperature of at least the threshold temperature to form the electrically insulative material within the at least one trench.

Claim 41 (original): The method of claim 40 wherein the reaction of the precursor to form the electrically insulative material occurs entirely in the mixture; and wherein the electrically insulative material transfers from the mixture to the substrate to form the layer on the substrate.

Claim 42 (original): The method of claim 40 wherein the reaction of the precursor to form the electrically insulative material occurs at an interface of the supercritical phase and a surface of the substrate.

Claim 43 (original): The method of claim 40 wherein the substrate has surface composition, and wherein the precursor reacts with the surface composition at or above the threshold temperature to form the electrically insulative material as the layer on the substrate.

Claim 44 (original): The method of claim 40 wherein the temperature of the mixture is raised by heating the substrate and transferring heat from the substrate to the mixture.

Claim 45 (original): The method of claim 40 wherein the substrate is a semiconductor substrate.

Claim 46 (original): The method of claim 40 wherein the substrate comprises monocrystalline silicon.

Claim 47 (original): The method of claim 40 wherein the precursor comprises silicon and oxygen, and wherein the electrically insulative material is silicon dioxide.

Claim 48 (original): The method of claim 40 wherein the precursor is tetraethyl orthosilicate, and wherein the electrically insulative material is silicon dioxide.

Claim 49 (original): The method of claim 40 wherein the precursor is tris(tert-butoxy)silanol, and wherein the electrically insulative material is silicon dioxide.